Amendments to the claims

1. (original) A method of code division multiple access communications wherein a plurality of data streams in symbol-level for carrying a plurality of transmit symbols are combined in a summing process into at least one chip-level code stream for transmission, said method comprising:

adding a plurality of prefixes to the data streams in symbol-level for providing a plurality of further data streams indicative of the prefix-added data streams; and

spread filtering the further data streams with a plurality of spread code signals for providing a plurality of spread data streams in a plurality of code channels prior to said summing process.

2. (original) The method of claim 1, wherein each of the data streams carries one of said plurality of transmit symbols and wherein each of the data streams is divided into a plurality of data blocks so as to allow the prefixes to be added to the data blocks for providing a plurality of prefix-added data blocks.

3. (original) The method of claim 2, wherein each of the data blocks contains $K-L_{cps}$ samples, and each of the prefixes contain L_{cps} symbols, and wherein each of the prefix-added data blocks contain K samples.

4. (original) The method of claim 3, wherein the plurality of prefix-added data blocks are combined into each of said prefix-added data streams prior to said spread filtering.

5. (original) The method of claim 4, wherein each of said prefix-added data streams is upsampled prior to said spread filtering.

6. (original) The method of claim 1, wherein the transmitted chip-level code stream is received for providing a received signal indicative of the received chip-level code stream, said method further comprising:

removing the prefixes from the received signal for providing a further signal in time domain indicative of a prefix-removed data stream; and

converting the further signal into a transformed signal in frequency domain.

7. (original) The method of claim 6, further comprising

applying a plurality of feed-forward filter coefficients to the transformed signal for channel equalization in frequency domain and providing equalized signal for despreading.

8. (original) The method of claim 7, further comprising:

converting the despread signal into a further transformed signal in time domain.

9. (original) The method of claim 8, further comprising

filtering the further transformed signal with a feedback filter with previous decisions for removing inter-symbol interference in the transformed signal, the feedback filter having a plurality of filter coefficients; and

computing the feedback filter coefficients if needed.

10. (original) The method of claim 9, further comprising

updating the feed-forward filter coefficients with the feedback filter through a time-to-frequency transform module in a feedback loop.

11. (original) The method of claim 6, wherein the prefix-removed data stream is divided into a plurality of further data blocks, and each further data block contains NK samples so that said converting is carried out by a NK-sized FFT module.

12. (original) The method of 11, further comprising

applying a plurality of feed-forward filter coefficients to the transformed signal for channel equalization and providing a plurality of data blocks for despreading; and

converting the despread data blocks by an NK-sized IFFT module for providing a plurality of transformed data blocks for despreading in the time domain.

13. (original) The method of claim 12, further comprising

combining the transformed data blocks into a transformed data stream in the time domain;

downsampling the transformed data stream; and

applying a feedback filter with previous decisions to the downsampled transformed data stream for removing inter-symbol interference in the downsampled transformed data stream.

14. (original) The method of 11, further comprising

applying a plurality of feed-forward filter coefficients to the transformed signal for channel equalization and providing a plurality of data blocks indicative of the equalized signal for downsampling;

downsampling the data blocks for despreading; and

converting the downsampled data blocks by a K-sized IFFT module for providing a plurality of transformed data stream in the time domain.

15. (original) The method of claim 14, further comprising

applying a feedback filter with previous decisions to the transformed data stream for removing inter-symbol interference in the transformed data stream, the feedback filter having a plurality of filter coefficients; and

computing the feedback filter coefficients if needed.

16. (original) The method of claim 15, further comprising

updating the feed-forwarding filter coefficients with the feedback filter through a time-to-frequency transform module in a feedback loop.

17. (original) A transmitter for use in code division multiple access communications wherein a plurality of data streams in symbol-level for carrying a plurality of transmit symbols are combined in a summing process into at least one chip-level code stream for transmission, said transmitter comprising:

a plurality of first modules, for adding a plurality of prefixes to the data streams in symbol-level for providing a plurality of further data streams indicative of the prefix-added data streams; and

a plurality of second modules, responsive to the further data streams, for spread filtering the prefix-added data streams by a plurality of spread code signals prior to said summing process.

18. (original) The transmitter of claim 17, wherein each of the data streams carries one of said plurality of transmit symbols, said transmitter further comprising

a plurality of third modules, for dividing each of the data streams into a plurality of data blocks so as to allow the first modules to add the prefixes to the data blocks for providing a plurality of prefix-added data blocks.

19. (original) The transmitter of claim 18, further comprising

a plurality of fourth modules for combining said plurality of prefix-added data blocks into each of said prefix-added data streams prior to said spread filtering.

20. (original) A receiver for use in code division multiple access communications wherein a plurality of data streams in symbol-level for carrying out a plurality of transmit symbols are combined in a summing process into at least one chip-level code stream for transmission, and wherein a plurality of prefixes are added to the data streams and a plurality of spread code signals are used for spread filtering the prefix-added data streams prior to said summing process for providing the chip-level code stream, said receiver comprising

an antenna for receiving a signal indicative of the chip-level code stream;

a first module, responsive to the received signal, for removing the prefixes from the chip-level code stream for providing a prefix-removed code stream in time domain;

a second module, for converting the prefix-removed code stream into a transformed signal in frequency domain; and

a third module, for applying a plurality of feed-forward filter coefficients to the transformed signal for channel equalization in frequency domain and providing equalized signal for despreading.

21. (currently amended) The receiver of claim 20, further comprising

a fourth module, for converting the equalized signal into a further transformed signal in ~~frequency~~ time domain.

22. (currently amended) The receiver of claim 21, further comprising

a fifth module for removing inter-symbol interference in the further transformed signal in ~~frequency~~ time domain.

23. (original) A network component in a code division multiple access communications network wherein a plurality of data streams in symbol-level for carrying out a plurality of transmit symbols are combined in a summing process into at least one chip-level code stream for transmission, said network component comprising:

a transmitter comprising:

a plurality of first modules, for adding a plurality of prefixes to the data streams in symbol-level for providing a plurality of further data streams indicative of the prefix-added data streams, and

a plurality of second modules, responsive to the further data streams, for spread filtering the prefix-added data streams by a plurality of spread code signals prior to said summing process; and

a receiver comprising:

a third module for removing the prefixes from the chip-level code stream for providing a prefix-removed code stream in time domain, and

a fourth module, for converting the prefix-removed code stream into a transformed signal in frequency domain.

24. (original) The network component of claim 23, wherein the transmitter further comprises:

a plurality of fifth modules, for dividing said each of the data streams into a plurality of data blocks so as to allow the first modules to add the prefixes to the data block for providing a plurality of prefix-added data blocks; and

a plurality of sixth modules, for combining said plurality of prefix-added data blocks into each of said prefix-added data streams prior to said spread filtering.

25. (currently amended) The network component of claim 24, wherein the receiver further comprises:

a seventh module, for applying a plurality of feed-forward filter coefficients to the transformed signal for channel equalization in frequency domain and providing equalized signal for despreading;

an eighth module, for converting the equalized signal into a further transformed signal in ~~frequency~~ time domain; and

a ninth module for removing inter-symbol interference in the further transformed signal in ~~frequency~~ time domain.

26. (original) The network component of claim 23, comprising a mobile terminal.